

(2) The environment effect on the photochemistry of Trp residues was studied on three proteins containing only one Trp: (a) glucagon (exposed residue); (b) endonuclease; (c) Rnase T<sub>1</sub> (buried residues). It was shown that in degassed solutions the photolysis process (photodegradation rate and photo-products) depends on the residue environment. In particular the degradation yield is larger (about 3 - 4 times) for exposed residues than for buried residues.

### **Photochemical behaviour of 8-methoxypsoralen in micelles and liposomes**

MASAKO SASAKI and TOSHIBUMI SAKATA

*Institute of Research and Development, Tokai University, Hiratsuka-shi, Kanagawa 259-12 (Japan)*

MITSunORI SUKIGARA

*Institute of Industrial Science, University of Tokyo, Minato-ku, Tokyo 106 (Japan)*

The purpose of the present study was to simulate the photochemical behaviour of 8-methoxypsoralen (8-MOP) in a biomembrane such as human skin by use of sodium dodecyl sulphate (SDS) micelle solution or dimyristoyl lecithin (DMPC) liposome as a model membrane. On the basis of the absorption and emission spectra of 8-MOP in various kinds of solvents, SDS micelle solution and DMPC liposome, the following results were obtained.

(1) The micelle exerts a polar atmosphere on 8-MOP. The effective dielectric constant is about 60.

(2) The polarity of DMPC liposome experienced by 8-MOP is nearly equal to that of methanol. The effective dielectric constant is about 32.

(3) It is suggested that 8-MOP exists in the close vicinity of the polar group of a DMPC liposome rather than close to the non-polar hydrocarbon chain of DMPC.

It is considered that DMPC liposome may be a useful model for 8-MOP photochemotherapy. The reaction scheme of 8-MOP in SDS micelle solution or DMPC liposome is also discussed.